



Typical Axis Emplacement in the Omars

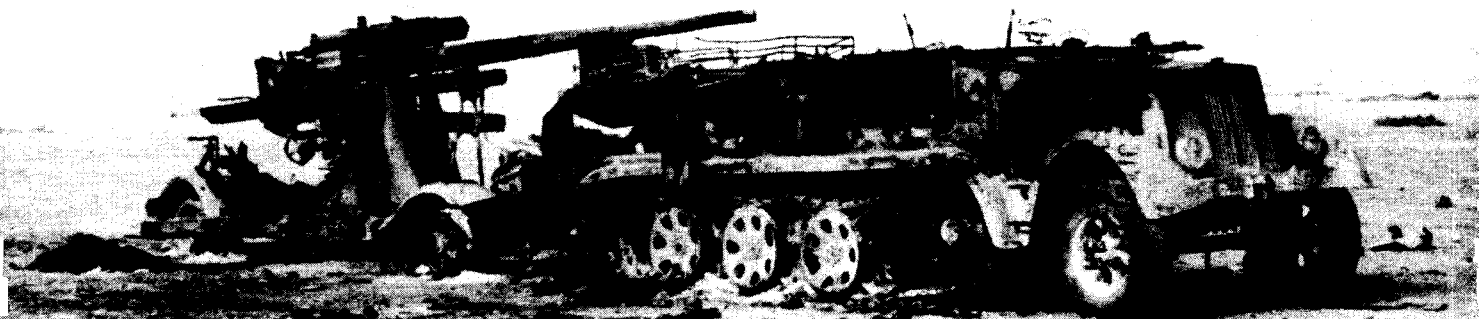
Captured German "Teller" Mines

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Destroyed German 88 mm. Multipurpose Gun with Prime Mover
(See Appendix A)

Military Intelligence Service

Information Bulletin No. 11

THE BATTLE OF THE OMARS

War Department
Washington, D.C.

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Military Intelligence Service
War Department
Washington, April 15, 1942

Information Bulletin
No. 11
MIS 461

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Med Bn	1	Engr Sq	1	Maint Bn	1
QM Bn	1	Med Sq	1	Supply Bn	1
Hq Inf Regt,	1	QM Sq	1	Div Train Hq	1
Inf Bn, 1 ea	9	Hq Cav Brig, 2 ea	4	Armd Regt, 4 ea	8
Hq Div Arty	1	Cav Regt, 4 ea	16	FA Bn, 1 ea	3
FA Bn, 1 ea	4	Hq Div Arty	1	Inf Regt	4
	30	FA Bn, 1 ea	3		32
			34		

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FOREWORD

The Battle of the Omars was an incident in the general British drive into Cyrenaica that began November 17/18, 1941, and terminated at El Agheila in mid-January 1942. This battle involved the use of all arms by a force comparable to that of a U.S. reinforced regiment. The excellent opportunities offered to the observers and the complete nature of their reports make possible for the first time a detailed study of the techniques of the various arms in desert warfare.

The U.S. designations which most closely approximate the strength of British units are used in this bulletin. Actual strength is given in the diagram in figure 2, and may be compared with the strength denoted by the approximate U.S. designation. The following principal changes have been made:

<u>British</u>		<u>U. S.</u>
Infantry brigade	changed to	Infantry regiment
Field battery	changed to	Field artillery battalion
Field troop	changed to	Field artillery battery
Armored squadron	changed to	Armored company

This bulletin is based on reports of American official observers and later interviews with them, and on British orders used in the battle. The appendix on the German 88-mm. multipurpose gun is based on a captured German document and other information from G-2 sources.

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THE BATTLE OF THE OMARS

1. PLANS (fig. 1)

a. Axis Dispositions

Prior to the British drive into Cyrenaica in November 1941, the Axis forces had organized a series of fortified positions extending from Halfaya Pass to Libyan Omar, inclusive. Any British effort for relief of Tobruk was thereby forced to enter Cyrenaica south of Bir Sheferzen. The fortified triangle Bardia--Sidi Omar--Halfaya Pass guaranteed the Germans and Italians, whose main forces were located generally to the northwest, "elbow room" in which they could deploy their armed forces in the frontier area and make effective dispositions to counter the British effort, from whatever direction and in whatever form it might come. Opposing the British in the general area between the fortified triangle and Tobruk were the German 15th and 21st Armored Divisions, the Italian Trento and Bologna Infantry Divisions, and the Italian Ariete Armored Division.

Halfaya Pass and the line from Salum southwest to Sidi Omar were held by the Italian Savona Division reinforced with a sprinkling of German troops, mostly artillery. The enemy outpost line from Halfaya Pass southwest to Libyan Sheferzen was lightly held by armored-car and tank detachments.

b. British Plans

The XIII Corps comprised the 1st New Zealand Division, the 4th Indian Division (less the 5th Indian Regiment)* and corps troops (see fig. 2). The mission of the XIII Corps was to advance rapidly to the north and seize the area east of the 48th grid, formation--divisions abreast, 4th Indian Division on the right; boundary between divisions--the fence**paralleling the Egyptian--Libyan border.

*The 5th Indian Regiment was in army reserve, and the 11th Indian Regiment was to advance along the coastal plain against Halfaya Pass, some 25 miles to the northeast.

**This fence is approximately 8 feet high and consists of two rows of posts, about 10 yards apart, strung with barbed wire. Between the rows of posts is a mass of concertina wire. Although the fence does present a real obstacle to tanks, the area is often filled with mines, and consequently both tanks and infantry seldom attempt to pass through the fence except at gaps known to be free of mines.

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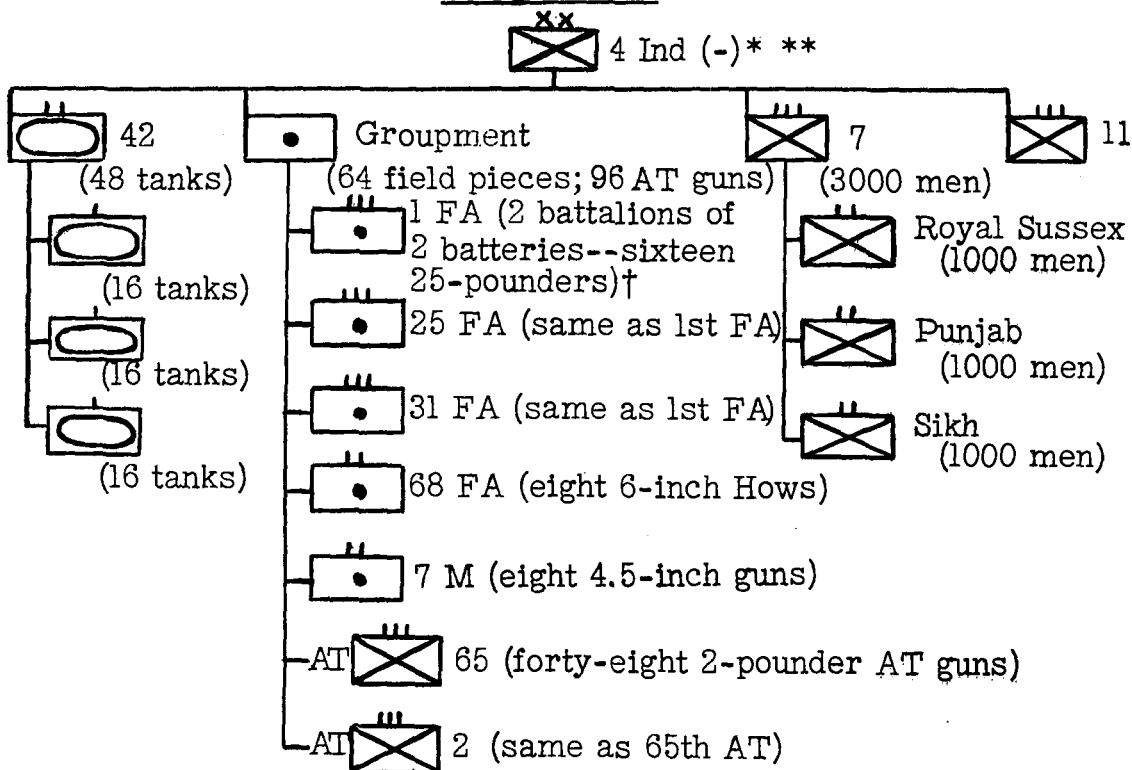


Figure 2. Organization of the 4th Indian Division (-)
on November 18, 1941.

*Detailed organization is given only for those units directly involved in the Battle of the Omars.

**Because of the great distance involved in North Africa, all infantry troops are moved by trucks.

†The characteristics of the various types of British guns are as follows:

1. The 25-pounder, the standard field gun of the British Army, is an 88-mm. (3.45-inch) gun howitzer with a rate of fire of 4 to 5 rounds per minute, a muzzle velocity of 1,470-1,750 feet per second, and a maximum effective range of 12,500 yards.

2. The 2-pounder antitank gun is a 40-mm. (1.58-inch) gun with a rate of fire of 22 rounds per minute and a muzzle velocity of 2,600 feet per second.

3. The 4.5-inch gun has a rate of fire of about 4 rounds per minute, a muzzle velocity of 2,300 feet per second, and an effective range of 20,500 yards.

4. The 6-inch howitzer has a rate of fire of about 2 rounds per minute, a muzzle velocity of 1,400 feet per second, and an effective range of 11,400 yards.

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Assembly areas: 4th Indian Division at Bir Sheferzen; 1st New Zealand Division at area 16 miles southwest of Omar Nuovo.

Command post of the XIII Corps: a point 17 miles south of Sidi Omar (in Libya just west of the border).

2. PRELIMINARY MOVES (fig.3)

a. Plan for Movement to Assembly Areas

The 7th Indian Infantry (less the Royal Sussex Battalion) was directed to move in four columns in trucks, from the vicinity of Play-ground, as follows: the night of November 16/17 to intermediate positions in the vicinity of Alam el Fakhri; the night of November 17/18 to assembly positions as indicated in figure 3.

1st Column

Punjab Battalion,
1 battalion of eight 25-pounders,
1 battery of four 40-mm. Bofors antiaircraft guns,
1 platoon of three 2-pounder antitank guns;

2d Column

2 companies of the Sikh Battalion,
1 Bren-gun carrier platoon of thirteen carriers,
Regimental antitank company, less three platoons,
total of three guns,
1 antiaircraft battalion, less two batteries, total
of four guns,
Regimental Headquarters;

3d Column

Sikh Battalion less two companies,
1 battalion of eight 25-pounders,
1 battery of four 40-mm. Bofors antiaircraft guns,
1 platoon of three 2-pounder antitank guns;

4th Column

B echelon (supply units).

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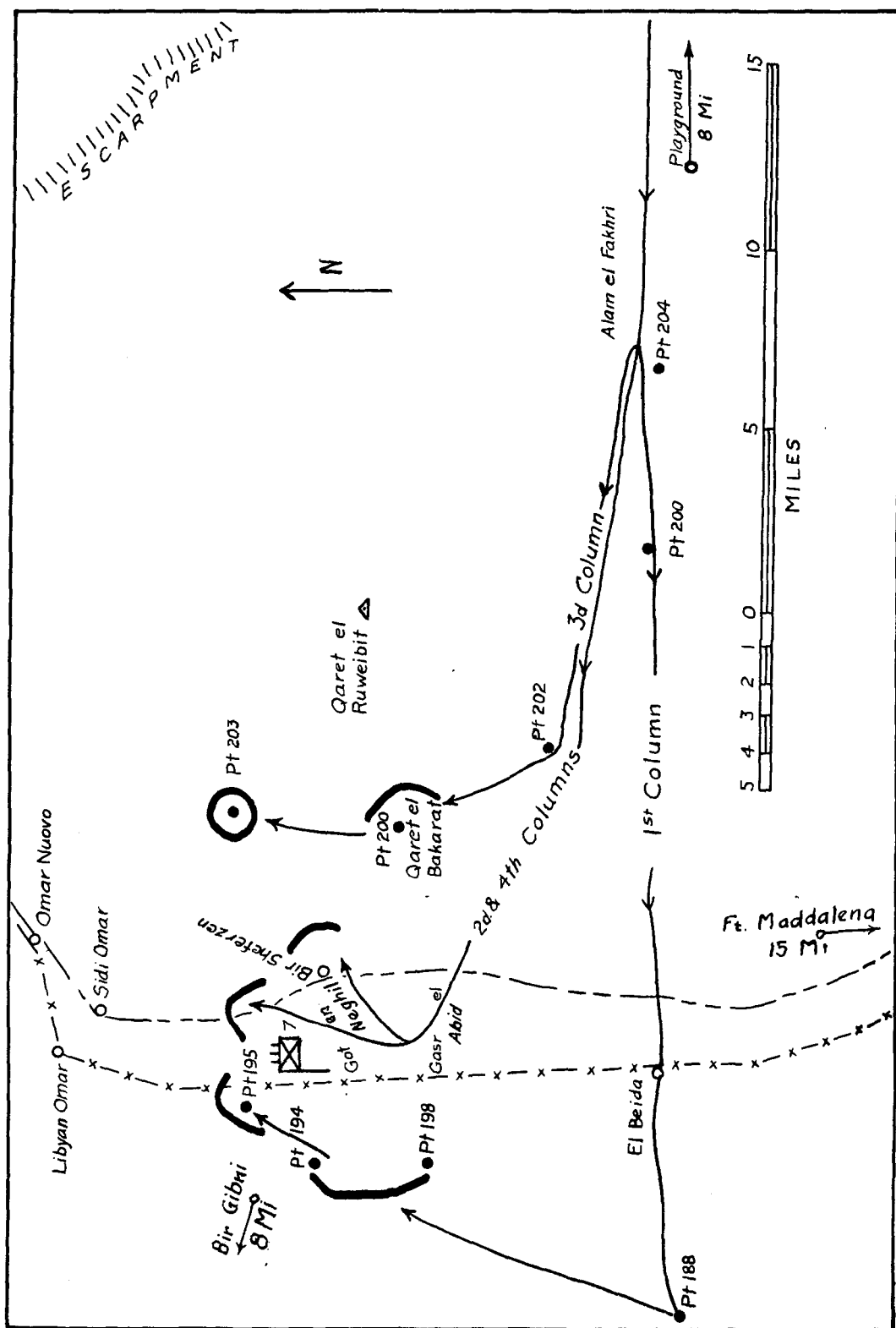


Figure 3. Movement to the Assembly Area of the 7th Indian Infantry.

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Figure 4. Typical Movement of an Armored Unit on the Libyan Plateau.

Note the wide dispersion of vehicles and the clouds of dust caused by movement in the desert.

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All movements were to be made with utmost secrecy, under cover of darkness in trucks furnished by corps. The New Zealand Cavalry Squadron (light tanks and armored cars) was to protect the left flank of the 7th Indian Infantry during movement and then to occupy a position in the vicinity of Bir Gibni. Assembly positions were to be occupied by daylight November 18. The Royal Sussex Battalion was directed to remain at Playground in division reserve.

b. The Movement

On the night of November 16/17, the four columns of the regiment as listed above moved successively from Playground to their intermediate positions. The routes had been previously reconnoitered. The first column was in the vicinity of Alam el Fakhri, the other columns in separate areas, each about 3 miles east of the preceding column.

The 1st column moved by way of Point 200 west through El Beida to Point 188, thence northeast to Point 194 and on to Point 195, where it went into two defensive positions. The first positions faced west, north, and northeast around Point 195, and the second faced west from Point 194 to Point 198. There was an interval of about 2,000 yards between the adjacent flanks of these positions.

The 2d column moved through Alam el Fakhri to Point 202, northwest to Gasr el Abid, and thence north to Got en Neghil, where it also went into two defensive positions, the first across the track from Fort Maddalena to Sidi Omar and abreast of the north combat group of the 1st column, and the second facing northeast and east around Bir Sheferzen. There were intervals of 1,500 to 2,000 yards between these defended positions. The Regimental Command Post was established on the trail at the point indicated in figure 3. The formation adopted was typical of formations used in the desert in that it was composed of several positions, each capable of all-round defense, and also capable of mutual support, since the intervals could be covered by the fire of antitank weapons.

The 3d column followed the 2d to Point 202, thence northwest to Qaret el Bakarat, where it went into position with flanks refused facing northeast and east around Point 200. A detachment consisting of one infantry platoon, one antitank platoon, and one platoon of Bren-gun carriers was immediately dispatched to the area in the vicinity of Point 203, where it organized a small all-round defensive area. This detachment thus provided protection for the right flank of the regiment.

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The 4th column followed the 2d into the Got en Neghil position and occupied an area south of the Regimental Command Post.

During the night of November 17/18, three companies of infantry tanks* were moved into an assembly position in the Qaret el Ruweibit area and attached to the 7th Indian Regiment. The movement of the 7th Indian Regiment and of the tank forces was apparently completed without detection, and by daylight on November 18, positions had been hastily organized and partial mine fields laid in the intervals between defensive areas. These fields were in the form of a triangle with the apex toward the enemy, the outer line laid with live mines and the remainder of the field with dummy mines.

The success of these night movements was due to careful planning and reconnaissance. The routes were reconnoitered and the compass bearings for the movements of the various columns were determined prior to the movement. In addition, guides were placed at triangulation points and other terrain features to insure against loss of direction. These guides were provided with one-way lights (shielded from all but one direction) which were flashed on and off at previously determined time intervals. In accordance with the standing operating procedure of British desert units, the intelligence officer acted as the unit navigation officer, thus being responsible for reconnaissance of routes, the placing of guides, and the maintenance of direction while the regiment was moving.

3. OPERATIONS

a. November 19-21 (fig. 1)

Movement northward of the XIII Corps started on November 19, but because of resistance offered by the strongly held Axis positions in the Omars the 4th Indian Division (i.e., the 7th Indian Regiment and supporting units) was able to advance only a few miles. To avoid exposing its right flank, the New Zealand Division moved north only a few miles to a position northwest of Libyan Sheferzen.

On November 19 the Royal Sussex Battalion of the 7th Indian Regiment, which had been released to regimental control the preceding

*These infantry tanks have the following characteristics: weight, 28 tons; crew, 4; armor base, 2.75 inches; armament, one .303 machine gun, one 2-pounder gun.

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Figure 5. British Command Post in the North African Desert.

Command Post vehicles are protected to some extent from air attack by dispersion. The vehicles in this picture are at normal intervals.

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day, moved northwest across the border, with one company of infantry tanks attached, and seized the high ground at Bu Deheua. This move afforded protection to the interior flanks of both the 4th Indian and the New Zealand Divisions, and the latter was ordered to advance rapidly to the north and cut the Axis lines of communication between Bardia and the Axis forces lying a few miles to the northwest of Zauiet umm Rucba. The 4th Indian Division was to advance to the north, with the 11th Indian Regiment moving up the coast against Halfaya Pass, and the 7th Indian Regiment seizing the Axis positions in the Omars.

The Royal Sussex Battalion, in its new position at Bu Deheua, was threatened with a tank attack from the vicinity of Tlata Gbur throughout November 19. The commanding officer of the 7th Indian Regiment reinforced the Royal Sussex with tank battalion headquarters and another company of tanks, but the attack did not materialize. During the night of November 19/20 he moved the Punjabs and the third company of tanks to the vicinity of Bu Deheua. Regimental headquarters, however, moved only as far as Got el Mahatta, where the terrain afforded cover. Security was provided by the Sikh Battalion.

On November 20 and 21 the New Zealand Division moved north as planned and accomplished its mission. It also cut the water pipeline supplying Bardia and Salum at a point about 7 miles west of Bardia. Since the 4th Indian Division, however, was still unable to advance because of the strong Axis position in the Omars, the division commander chose to attack and the warning order was issued on November 21.

b. Warning Orders (figs. 6, 9, and 10)

The commanding general of the 4th Indian Division personally issued oral orders at about 4:00 p.m., November 21, to the commanding officers of the 7th Indian Infantry and the 4th Indian Division Artillery. After this each of these commanders issued written orders to his respective forces.*

Following are (I) the order actually issued by the commanding officer, 7th Indian Infantry, (II) that order as it would have been written by a U.S. Army regimental commander,** and (III) the order issued by the commanding officer, 4th Indian Division Artillery.

*It is of interest to note that these orders were received by all elements concerned at 6:00 a.m., November 22, 5 1/2 hours before the time of attack.

**This order is included to provide a basis of comparison between U.S. and British field orders and tactical doctrine, and will be further discussed in paragraph 5 of this bulletin.

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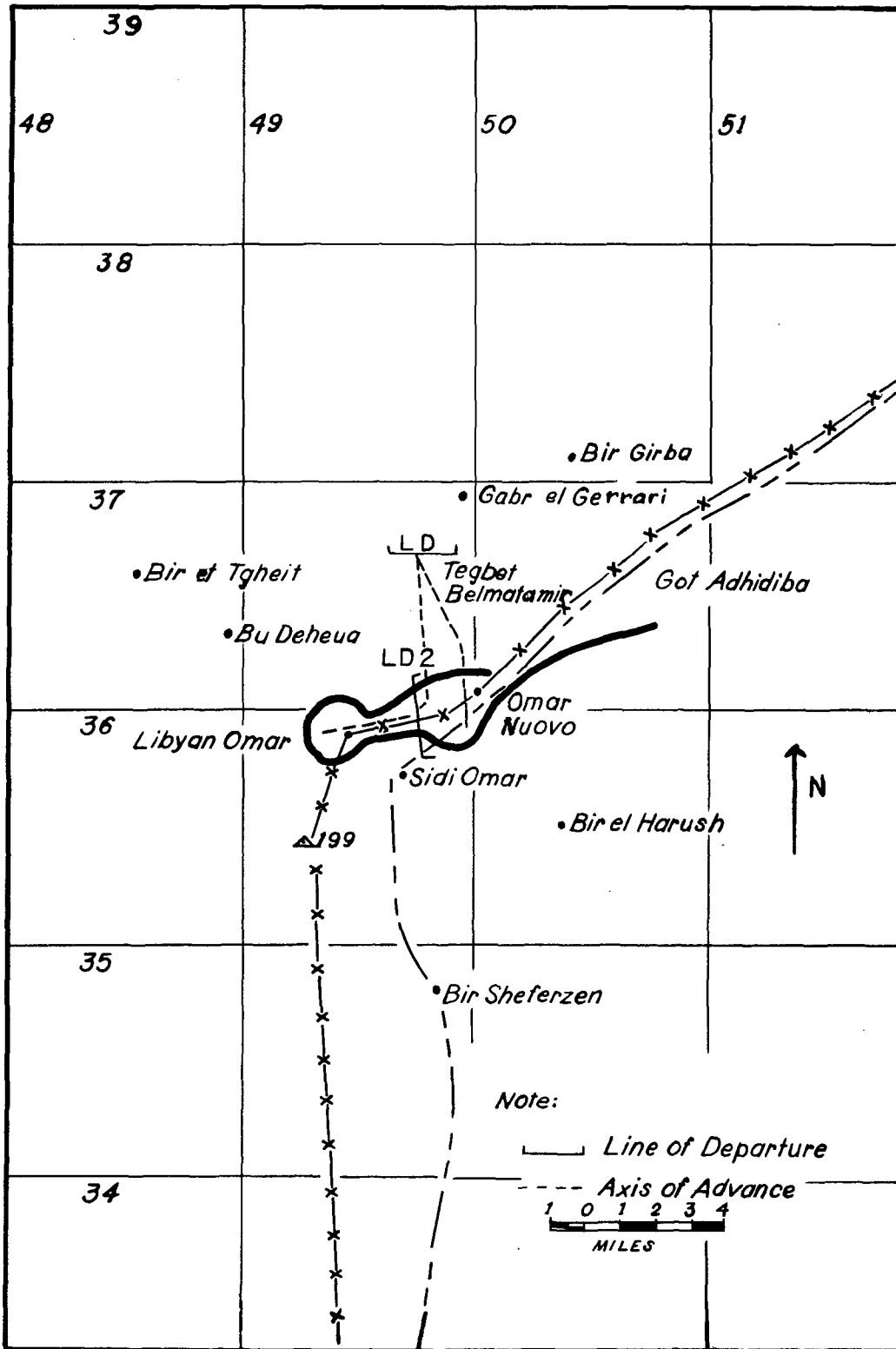


Figure 6. Map for Warning Orders.

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(I) 7th Indian Infantry Order

7 Ind Inf Regt O O No. 10.*

Ref Map Sheet CYRENAICA 1/100,000 and Overprint 1/50,000.**

INFORMATION

1. ENEMY (a) The enemy hold LIBYAN OMAR, OMAR NUOVO, positions around GHOT ADHIDIBA and B. GHIRBA as in current sitreps, overprints and air photos.

(b) Minefields are believed to extend from GRAVES 495361 around the NORTH, WEST and SOUTH of L. OMAR and SOUTH of the wire to GHOT ADHIDIBA. Patrol reports of area EAST of GRAVES to incl frontier wire will be issued as soon as received.

2. OWN TPS (a) Royal Sussex are in occupation of high ground about B. BU DEHEUA and the TEGBET BELMATAMIR feature 497366.

*Following is a list of British abbreviations and terms used in this order and in the 4th Indian Division Artillery order together with their meanings or U.S. equivalents:

ADS--aid station;	RA--Royal Artillery;
BMRA--adjutant, artillery;	Recce--reconnaissance;
Cable--telegraph;	RHA--Royal Horse Artillery,
CIH--motorized cavalry;	now motorized;
Comd--command, commander;	RTR--Royal Tank Regiment;
Comn--communications;	RV--rendezvous;
CRA--commander, artillery;	Sitreps--situation reports;
FOO--forward observer, artillery;	SL--start line (for an attack);
Gp--group;	SP--starting point (for an
Hrs--o'clock;	attack);
Intercomn--intercommunications;	Tps--troops;
LO--Liaison Officer;	Tpt--transport;
L/T--telegraph;	Under com--attached;
Maintain--carry out maintenance;	W/T--radio;
POW--prisoners of war;	Zero--hour of attack.

**See figure 6.

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(b) NZ Div have already passed EASTWARDS and NORTH of R Sussex and are patrolling towards B. GHIRBA from 1130 hrs onwards and occupying ABEIS* if no serious resistance is encountered.

(c) RAF--Our aircraft will bomb OMAR NUOVO, L. OMAR and ADHIDIBA between the hours of 1130 and 1200.

(d) CIH Coy is making every effort to prevent reinforcement of the OMAR gps by the enemy from the EAST.

INTENTION

3. Subject to satisfactory reports of routes clear of mines NORTH and EAST of OMAR NUOVO 7 Ind Inf Regt Gp will seize and consolidate the OMAR gps on 22 Nov.

METHOD

4. The attack will be carried out in two phases.

Zero for each phase will be the time at which the Arty opens fire to support each phase of the attack.

5. Confirmation for the first phase will be signalled by the code word GEOFF followed by the time 'IN CLEAR'. Code word for second phase SID and time 'IN CLEAR'.

6. PHASE I

Objective OMAR NUOVO, EAST, WEST and SOUTH.

Troops R Sussex

Under Comd 259 A Tk Bn

Carrier Pl Punjab

4 Squads 4th Engr Coy

In support 42 RTR** with Coy 44 RTR and W/X Fd Bn under Comd.

SP GRAVE 498367

*Location not known.

**Though "R Tanks" is now the official abbreviation for the Royal Tank Regiment, RTR is given as in the orders quoted. It should be noted that 42 RTR, 44 RTR, etc., mean the 42d Battalion of the Royal Tank Regiment, the 44th Battalion, etc. Note also that "Tk Bn" is used in the U.S. Army version of this order.

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Figure 7. British 25-pounder Firing in the Desert.

These guns are in hasty emplacements. Notice the dust raised from the desert by the muzzle blast. The guns are staggered in depth.

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Zero--1200 hrs (subject to confirmation).

Axis of advance--to conform with entrances reported in minefields.

Comd R Sussex will coordinate this attack and ensure that the tanks arrive on the objectives at zero plus 12 and the leading Inf by zero plus 22.

7. CONSOLIDATION

On capture of objective R Sussex will consolidate against possible counter attack from the EAST and from L. OMAR from the WEST and will patrol immediately to locate and discover routes through any tank obstacles between OMAR NUOVO and L. OMAR reporting any obstacles found to the Regt Comd immediately.

8. RESERVES

Punjab with 260 A Tk Bn under comd will move behind R Sussex to Sq 498365 where Regt Comd will join them.

9. PHASE II

Objective	LIBYAN OMAR
Tps	Punjab
Under comd	260 A Tk Bn (less one Coy) Carrier Pl R Sussex 4 Squads 4th Engr Coy
In support	42 RTR with Coy 44 RTR, W/X Fd Bn
under comd.	
SP	To be coordinated by Comd Punjab after mine report has been received.

Axis of Advance--NOT NORTH OF THE L. OMAR--GHIR-BA RD.

Zero As given by code word SID. At least 30 mins notice will be given.

Zero for PHASE II will be referred to as Y throughout.

Comd Punjab will coordinate this attack and ensure that the tanks arrive on the objective at Y plus 12 and the leading Inf by Y plus 22. After capture of objective Punjab Gp will be prepared to act as mobile reserve.

10. RESERVES

R Sussex will provide one Coy as Regt reserve at call during PHASE II to which instructions will be issued by LO if necessary.

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11. RTR AND CARRIERS

Immediately Inf have taken over from Tanks and Carriers on the first objective they will be released to RV arranged in coordination with Comd Punjab and Comd 42 RTR in preparation for PHASE II.

After capture of second objective they will RV in area Sq 497361 and maintain.

12. TP CARRYING TPT

Tp carrying tpt will remain dispersed at debussing pts. There will be no RETROGRADE movement until ordered by Regt HQ.

13. SIKH

Sikh with under comd 257 A Tk Bn and Carrier Coy CIH will operate from SOUTH EAST of the frontier wire in the HARUSH area 503355 and demonstrate against GHOT ADHIDIBA to attract attention in their direction. They will prevent the withdrawal of any enemy EASTWARDS SOUTH of the wire, and prevent reinforcements arriving from the EAST. They will provide one A Tk Coy for immediate protection of 223 Bn 68 Med Regt (6-in How) in area 498353.

CIH Coy will be utilised to contain the enemy between the frontier wire Pt 199--491254 and B. BU DEHEUA.

14. ARTY (a) Arty Gp is supporting the attack as per programme to be issued.

(b) Liaison

HQ 25 Fd Regt with OPs with HQ 7 Ind Inf Regt Gp.

W/X Bn with 42 RTR throughout.

31 Fd Bn with R Sussex comes under comd after capture first objective.

12 Fd Bn with Punjab comes under comd after capture second objective.

HQ 1 Fd Regt with Sikh.

(c) OPs

FOO for W/X FA Bn with 42 RTR.

FOO for 31 FA Bn with R Sussex.

FOO for 12 FA Bn with Punjab.

15. AA

As allotted by CRA.

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16. ATK (a) A Tk allotment as shown in foregoing paragraphs.

(b) 7 Ind Inf Regt A Tk Coy by 1100 hrs will operate in the area incl GRAVE at GABR EL GERRARI to incl track in 496370 to protect the left flank of the Regt Gp against enemy tank counter attack.

17. RAF

During the hours of 1115 to 1215 and when aircraft call for recognition signals all tps will display the correct air recognition signals.

18. ADM

Separate instructions will be issued.

19. POW

Will be collected in Sq 497360.

One Pl of each Inf unit being made responsible for the protection.

20. MED

ADS will be established in the TEGHEIT area 485366.

21. INTERCOMN (a) Reports to HQ at TEGHEIT until capture of L. OMAR when to Sq 495362.

(b) Comd's Recce Gp will move with HQ R Sussex to their SP after which with Punjab in Sq 498365.

(c) Comns by cable and W/T along axis of advance of R Sussex to OMAR NUOVO.

(d) W/T allotment

Regt HQ	2 No. 11 Sets* (one with Comd).
R Sussex	1 No. 11 Set.
Sikh	1 No. 11 Set.
Punjab	1 No. 11 Set.
B Ech	1 No. 11 Set.

*The British No. 11 set has the following characteristics: voice range, 3 miles with loop antenna, 8 miles with pole antenna; frequency, 4200-7500; weight, 83 pounds. Its approximate U. S. equivalent is S.C.R. 288.

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22. SYNCHRONIZATION

Watches will be set by BBC time obtainable from the Regt Signal Officer.

23. ACK

/s/ J. M. Hughes
Maj.
BM

Issued through Sigs at _____ hrs.

DISTRIBUTION	Copy No.	DISTRIBUTION	Copy No.
R Sussex	1	Carrier Coy CIH	9
Sikh	2	CRA 4 Ind Div	10
Punjab	3	Lt-Col EASTMAN	11
7 Ind Inf Regt A Tk Coy	4	Hq 4 Ind Div	12 & 13
7 Ind Inf Regt Sig Sec	5	ADS	14
42 RTR	6	File	15
65 A Tk Bn RA	7	War Diary	16 & 17
4th Engr Coy	8		

(II) U.S. Army Version of the 7th Indian Infantry Order

7th Indian Infantry
GOT EL MAHATTA
22 Nov., 1941.

F. O. No. 10.

Maps: Sheet CYRENAICA 1/100,000.
BIR GHIRBA 1/50,000 APIU Overprint.*
Operation May (Annex No. 1).*

1. a. Enemy. The enemy holds LIBYAN OMAR, OMAR NUOVO, positions in the vicinity of GOT ADHIDIBA and BIR GIRBA as shown in current situation reports, overlays, and aerial photographs.

Mine fields are believed to extend from graves (495-361) around the north, west, and south of LIBYAN OMAR, and south of the wire from LIBYAN OMAR, east to include GOT ADHIDIBA.

*See figure 6.

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b. The XIII Corps continues its advance. New Zealand Div is advancing to the north to cut Axis lines of communication between BARDIA and the Axis forces in the area a few miles northwest of ZAUJET UMM RUCBA. Beginning 11:30 a.m., 21 Nov., it patrols toward BIR GIRBA. It will occupy ABEIS.

2. a. The 7th Ind Inf with attached:

- 42 Tk Bn
- 1 Co 44 Tk Bn
- 259th AT Bn
- 260th AT Bn (less 1 Brty)
- 4 squads 4th Engr Co
- CIH Carrier Co
- W/X Bn, 25th FA

supported by 4th Ind Div Arty will attack and seize the Omar Group (see par, 3,x, (1)).

b. The attack will be executed in two phases:

(1) Phase I.

Attack and seize OMAR NUOVO, EAST, WEST and SOUTH.

Time: Z hour (see par. 3,x, (1), (b)).

LD, Axis of advance--(see Overlay, Annex No. 1, attached).*

(2) Phase II.

Attack and seize LIBYAN OMAR.

Time: Y hour (see par. 3,x, (1), (c));

3. a. Royal Sussex Bn with 42d Tk Bn, 259th AT Co, Carrier Plat Punjab, 2 squads 4th Engr Co attached, will;

(1) Execute Phase I.

(2) Immediately upon arrival on objective, patrol to locate tank obstacles and routes through obstacles in area between OMAR NUOVO and LIBYAN OMAR reporting at once to CO, 7th Ind Inf, location of obstacles and routes.

*See figure 6.

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(3) Release 42d Tk Bn and Carrier Plat Punjab upon completion of Phase I.

(4) Attach Carrier Plat Royal Sussex to Punjab for Phase II.

(5) Consolidate captured positions against counterattack. 31 FA Bn attached after completion of Phase I.

(6) Provide 1 Co as regimental reserve during Phase II. Orders to reserve by Ln O.

b. Punjab with 260th AT Bn (less 1 Btry), 2 Squads 4th Engr Co attached will:

(1) Attach Carrier Plat to Royal Sussex for Phase I, to revert at completion of Phase I.

(2) Follow Royal Sussex at 1,500 yds to square (498-365) and report to CO, 7th Inf, there.

(3) Execute Phase II with 42d Tk Bn and Carrier Plat Royal Sussex attached.

(4) Release 42d Tk Bn and Carrier Plat Royal Sussex upon completion of Phase II.

(5) Upon completion of Phase II be prepared to act as mobile reserve.

c. 42d Tk Bn with 1 company 44th Tk Bn, W/X FA Bn, 25th FA, attached:

(1) Attached to Royal Sussex for Phase I.

(2) Assemble upon completion of Phase I, as arranged with CO, Punjab.

(3) Attached to Punjab for Phase II.

(4) Upon completion of Phase II revert to 7th Ind Inf, assemble in square (497-361) for maintenance.

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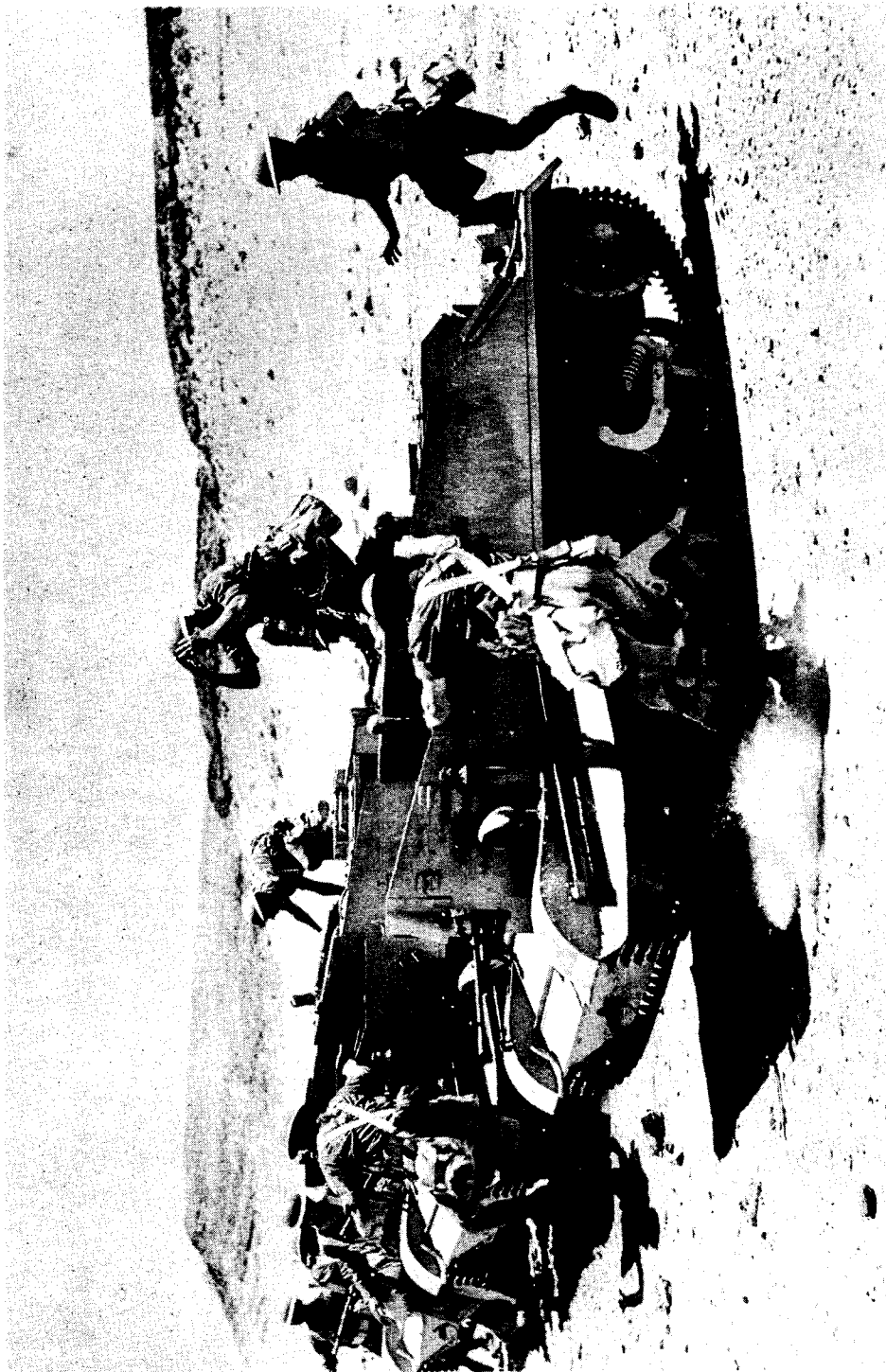


Figure 8. Bren-gun Carriers and Crews.

These carriers have the following characteristics: weight, 4.14 tons; length, 12 feet; width, 7 feet; height, 4 feet 10 inches; armor, 7 to 10 mm.; maximum speed, cross-country, 20 miles per hour, road, 30 miles per hour; radius of action, 100 miles; armament, one light machine gun (Bren gun).

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d. Carrier Plats

(1) Carrier Plat Punjab attached to Royal Sussex for Phase I, to revert upon completion of Phase I.

(2) Carrier Plat Royal Sussex attached to Punjab after completion Phase I, to revert upon completion of Phase II.

e. Sikh with 257th AT Bn attached will:

(1) Operate from HARUSH area (503-355) and demonstrate against GOT ADHIDIBA.

(2) (a) Prevent arrival of reinforcements from the east.

(b) Prevent hostile withdrawal to the east in the area south of the frontier wire.

(3) Provide antitank protection in area (498-353) for 233d FA Bn.

f. CIH CO will prevent hostile movement west from LIBYAN OMAR from Pt 199 (492-354) to BU DEHEUA.

g. Det 4 Engr Co, 2 squads attached to Royal Sussex, 1 squad attached to Punjab.

h. AT Co 7th Ind Inf from 11 a.m. protect left flank by operations in area vicinity GRAVE at GABR EL GERRARI to track at (496-370) both inclusive.

i. Arty

(1) 4th Ind Div Arty (less W/X Bn 25th FA) support attack-- (see 4th Ind Div Arty, Table I, attached*).

(2) W/X Bn 25th FA attached to 42d Tk Bn.

(3) 31st FA Bn attached to Royal Sussex upon completion of

*See 4th Indian Division Artillery order.

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(4) 12th FA Bn attached to Punjab upon completion of Phase II.

j. Air

RAF will bomb OMAR NUOVO, LIBYAN OMAR, GOT ADHIDI-BA between 11:30 a.m. and 12 noon, 21 Nov.

x. (1) Subject to reports of routes clear of mines north and east of OMAR NUOVO attack will be made:

(a) 22 Nov.

(b) Phase I, Z hour 12 noon, tentative. Confirmation will be signaled by 7th Ind Inf by code word GEOFF followed by time in clear.

(2) Patrol reports of mine fields in area east of GRAVES (495-361) will be issued when received.

(3) Transport. Troop-carrying transport will remain dispersed at detrucking points. No retrograde movement except by order of CO, 7th Ind Inf.

(4) Liaison

25th FA Regt with OP's with HQ 7th Ind Inf.
31st FA Bn with Royal Sussex.
12th FA Bn with Punjab.
W/X Bn 25th FA with 42d Tk Bn.

(5) Observation

W/X Bn 25th FA FO with 42d Tk Bn.
31st FA Bn FO with Royal Sussex.
12th FA Bn FO with Punjab.

(6) Air recognition signals to be displayed by all units from 11:15 a.m. to 12:15 p.m., 22 Nov., and at such other times as called for by aircraft.

(7) Time synchronized by BBC time, obtainable from Signal Officer, 7th Ind Inf.

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4. a. Bn aid stations open in TEGHEIT area(485-355) at 11 a.m.

b. PW collecting point in square (497 - 360). One Plat each Royal Sussex, Punjab responsible for escort and protection.

c. See Adm Annex No. 3 to be issued.

5. a. CP 7th Ind Inf at TEGHEIT until capture of LIBYAN OMAR, after which at Square (495-362).

b. 7th Ind Inf Rec Gp with Hq Royal Sussex to NUOVO OMAR, thereafter with Hq Punjab in Square (498-365).

c. Axis of signal communication along axis of advance (see par. 2, x, (1)).

d. Radio allotment

7th Ind Inf Hq	2 No. 11 sets (1 with CO)
Royal Sussex	1 No. 11 set
Punjab	1 No. 11 set
4 Sikh	1 No. 11 set
B Ech	1 No. 11 set

By order of Colonel Doe.

Official:

A. B. COE

Lt. Col., 7th Ind Inf.

S-3.

Annex No. 1--Operation overlay.

Annex No. 2--4th Ind Div Arty.

Annex No. 3--Adm (to be issued).

Distribution: A.

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(III) 4th Indian Division Artillery Order

4 Ind Div Arty Operation Order No. 3.

Ref Map:--BIR GHIRBA 1/50,000 APIU overprint*
Edition 6 Nov. 41.

INFORMATION

1. Enemy

See current sitreps and map referred to above. Enemy are making minefield along Northern face of LIBYAN OMAR.

2. Own

(a) 7 Ind Inf Regt are to attack and capture:

(i) OMAR NUOVO

(ii) LIBYAN OMAR

Supported by 42 RTR and Div Arty.

(b) Objectives A and B (see trace 'A' attached) are to be attacked simultaneously, one Coy 42 RTR directed at each.

After capture of B, one Coy Tks moves to capture C.

R SUSSEX follow up Tks and take over on objective.

For Start Line and axis of advance, see trace 'A' att.

Tks cross Start Line at Z--20 mins.

Inf cross Start Line at Z.

Guns start Programme 1 (see Table I att) at Z.

(c) LIBYAN OMAR is to be attacked at Y hrs, a time to be de-

*See figures 6 and 10.

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cided after capture of first objective.

Tks cross N and S Line through objective A at Y hrs.

Guns start programme 2 at Y hrs.

Inf cross Tk Start Line at Y plus 10 mins.

PUNJABS follow up Tks and take over on objective.

(d) RAF will bomb objectives from 1130 to 1200 hrs.

INTENTION

3. Div Arty will support attack of 7 Ind Inf Regt and 42 RTR.

METHOD

4. Gun posns*

1 FA Regt	11 FA Bn	495353
Gp	52 FA Bn	496353
	116 FA Bn	498353
68 Med Regt	233 Med Bn	498353
(less one Btry)	234 Med Bn	495349
	(less one Btry)	
	12 FA Bn	488361
	31 FA Bn	495366 (approx)
	W/X FA Bn	

5. OPs

FOO from W/X FA Bn with 42 RTR.

FOO from 31 FA Bn with R SUSSEX.

FOO from 12 FA Bn with PUNJABS.

6. For programmes 1 and 2, see Table I att.

7. (a) After capture OMAR NUOVO 31 FA Bn will advance by Btrys into objective and come under comd R SUSSEX.

(b) After capture LIBYAN OMAR, 12 FA Bn will advance by Btrys into objective and come under comd PUNJABS.

*See figure 9.

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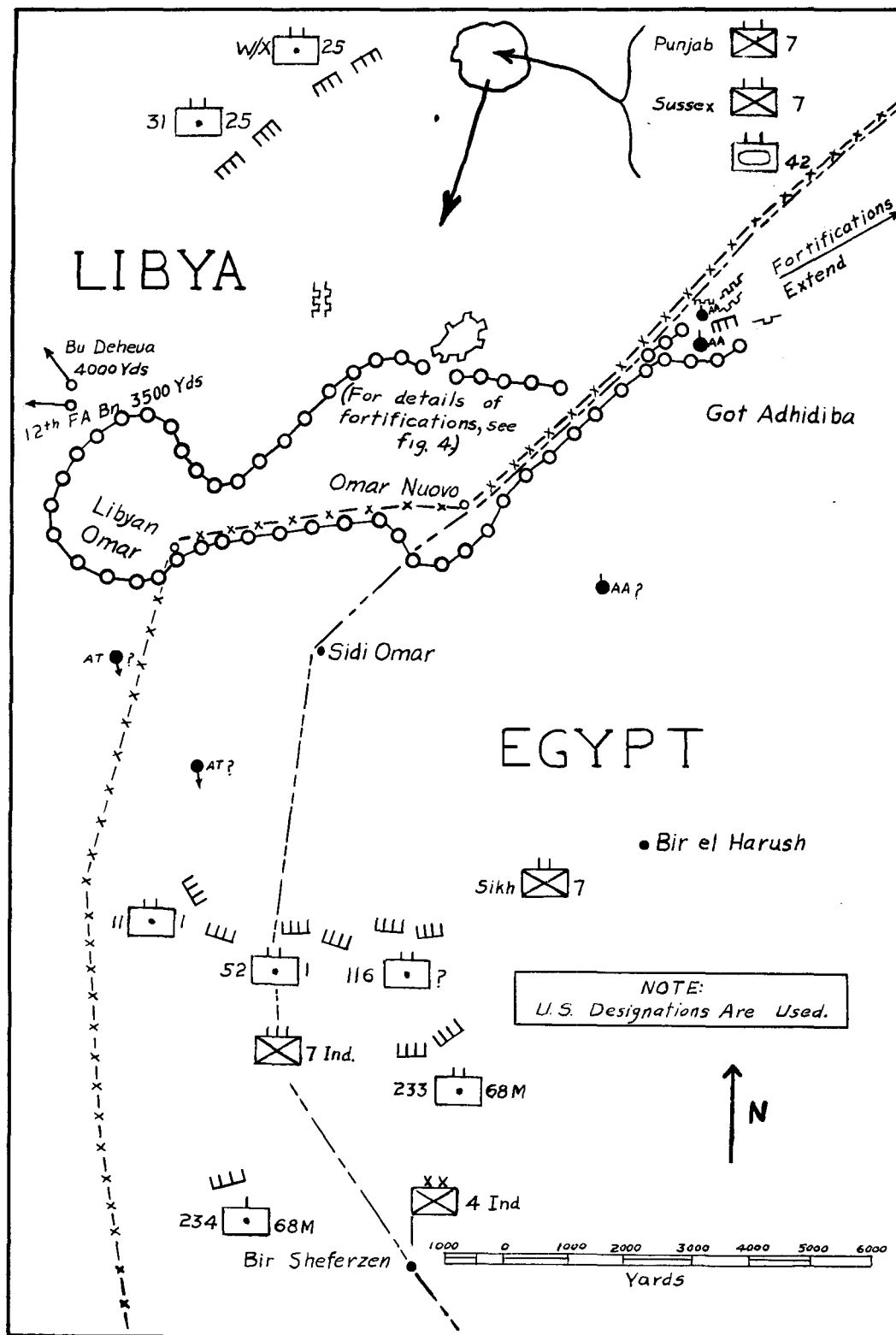


Figure 9. British Troops Disposed for Attack on the Omars.

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(c) W/X FA Bn under comd 42 RTR throughout.

8. Counter-Battery

For bombardment programme covering period Z-30 to Z-45, see Table II att.

9. AA (a) Under comd 7 Ind Inf Regt:
169 Lt AA Bn less two Btrys.
Two 161 Lt AA Bn.

(b) Under comd CRA:
171 Lt AA Bn less two Btrys.
One Btry 170 Lt AA Bn.
N. B. One Btry 161 Lt AA Bn now with HQ 7 Ind Inf Regt will move to protect 233 Med Bn.

10. A Tk (a) Under comd 7 Ind Inf Regt:
HQ 65 A Tk Regt with 7 Ind Inf Regt.
259 Bn with R SUSSEX.
260 Bn less one Btry with PUNJABS.
257 Bn with SIKHS (one Coy being allotted for protection 233 Med Bn).

(b) 7 Ind Inf Regt A Tk Coy is to be sited NORTH and EAST of TEGBET BELMATAMIR 486366 for protection of left flank
ADM

11. Already issued.

INTERCOMN

12. Liaison

HQ Div Arty with Ops HQ 4 Ind Div 496346.
HQ 25 Fd Regt with HQ 7 Ind Inf Regt, initially area B EL TEGHEIT 485366.
W/X FA Bn with 42 RTR.

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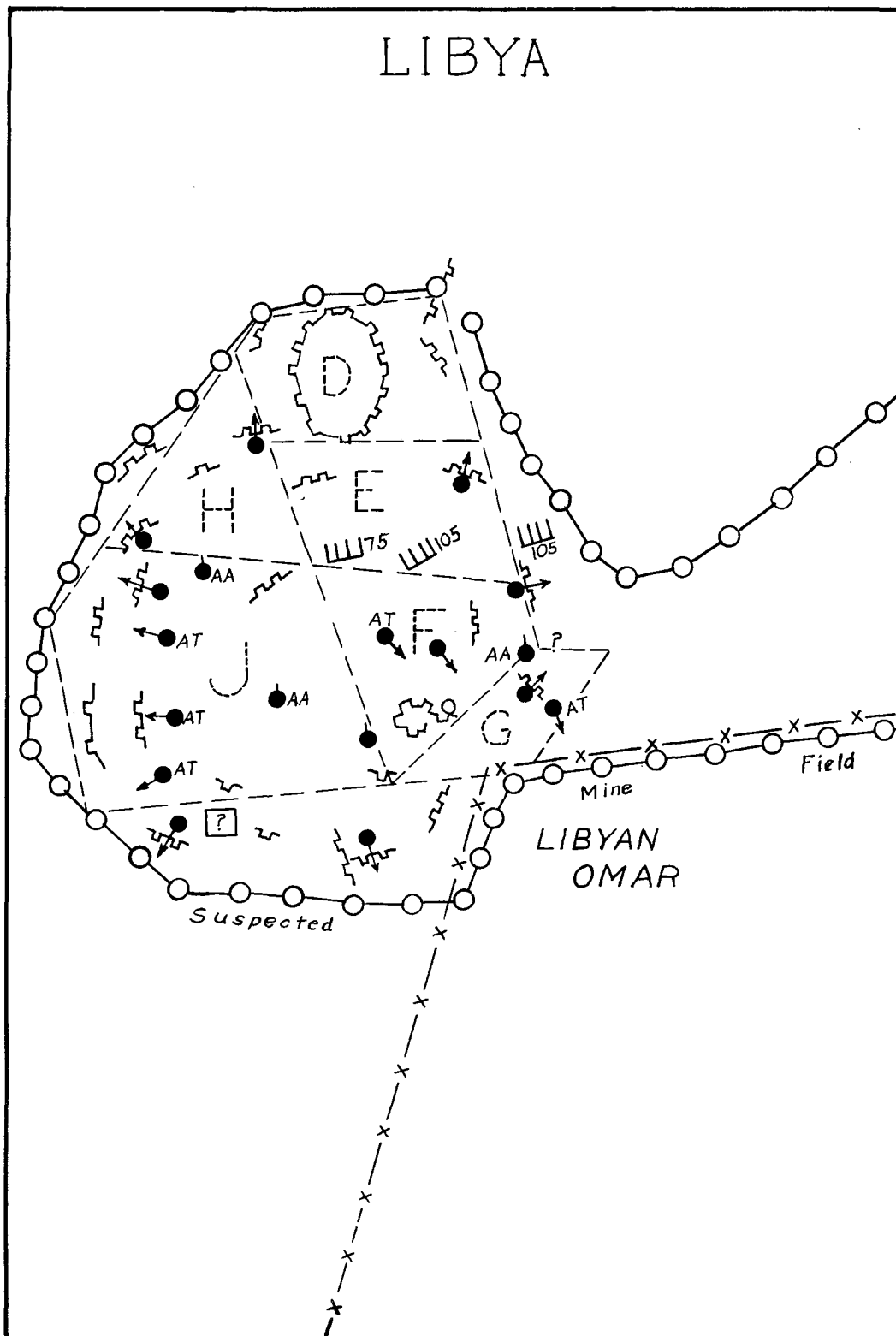
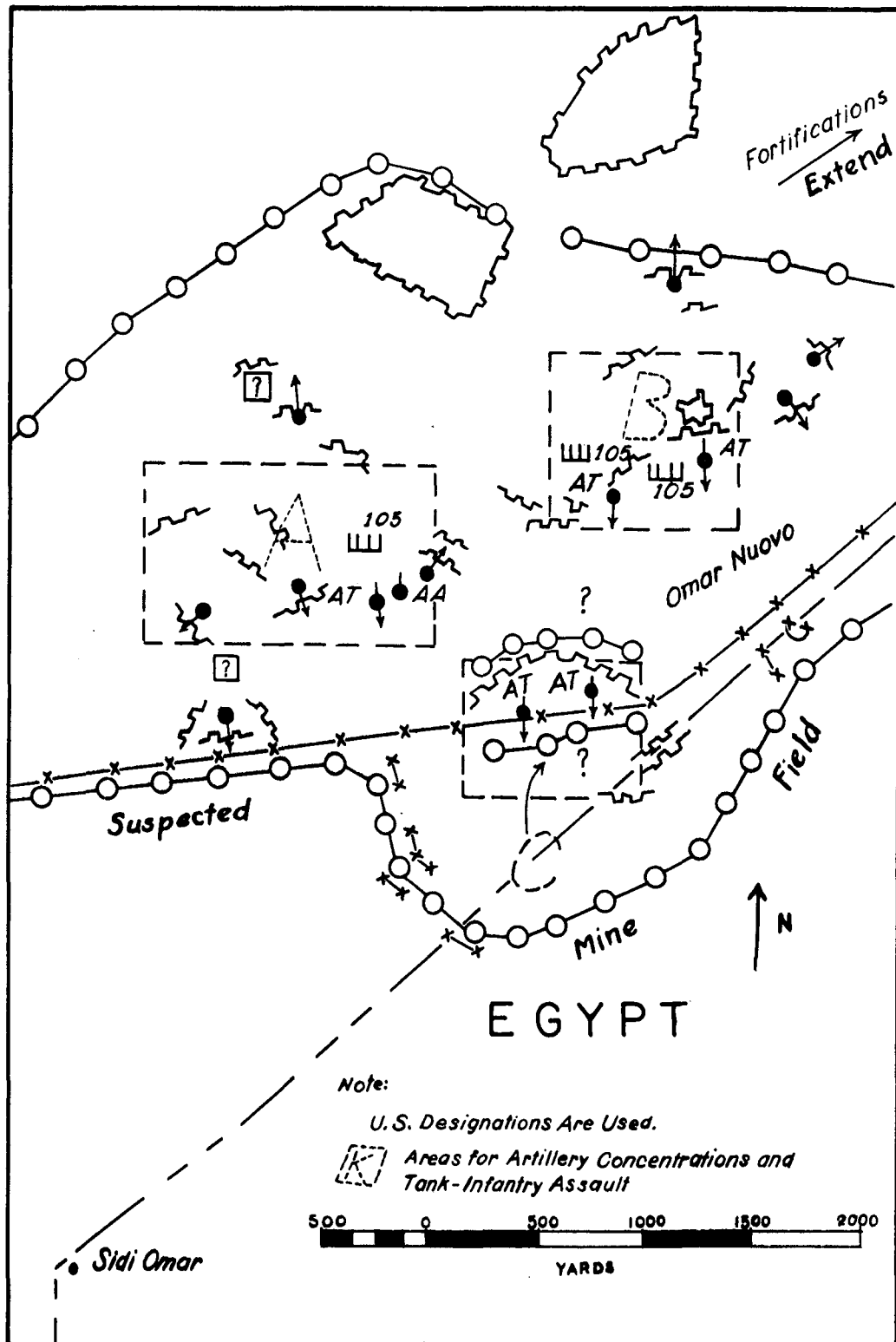


Figure 10. Axis Defenses as Estimated

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by British Intelligence before the Battle.

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31 FA Bn with R SUSSEX;
12 FA Bn with PUNJABS.
HQ 1 FA Regt Gp with SIKHS area BIR SHEFERZEN.

12. Zero Hour

For first attack, PROVISIONALLY 1200 hrs 22 Nov. 41.

Zero hours will be indicated as follows:

For first attack, code work GEOFF followed by TIME in clear. This will indicate time for Z,

For second attack, code work SID followed by TIME in clear. This will indicate time for Y.

13. Synchronization

By BBC time signals.

14. Comms

From HQ Div Arty to Regts--W/T and L/T.

15. ACK

Time of Signature 2340 hrs.

Method of Dispatch By LO.

/s/G.H.Baker
Maj. RA
BMRA

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(Following, on pp. 28-30, are Tables I and II, as attached to 4 Ind Div Arty OO No. 3. Table I gives Programmes 1 and 2, firing schedules for the attacks on Omar Nuovo and Libyan Omar respectively. Table II shows the schedule for counterbattery fires against enemy batteries which had been located before the attack.)

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TABLE I (Issued with 4 Ind Div Royal Arty OO No. 3 Dated 31 Nov. 41)

PROGRAMME 1. ATTACK ON OMAR NUOVO						
SERIAL	UNIT	TIME FROM TO	TARGET	AMMUNITION	RATE	REMARKS
1	W/X FA	Z-20	EAST and WEST flank areas* A and B	HE & 25% smoke	Normal	
2	31 FA Bn	Z	NORTH half area B	HE	Normal	
3	12 FA Bn	Z	NORTH half area A	HE	Normal	
4	52 FA Bn	Z	SOUTH half area B	HE	Normal	
5	11 FA Bn	Z	SOUTH half area A	HE	Normal	
6	One Btry 116th FA Bn	Z	Area C	HE	Normal	
7-A	One Btry 116th FA Bn	Z	Smoke screen	Smoke	Normal	To screen areas DEFG from area A, see 7-B.
7-B	One Btry 116th FA Bn	Z	Areas DEFG	HE & 25% smoke	1 1/2 rds per gun per min	Alternative to 7-A if wind is unfavor- able for smoke.

*Areas for artillery concentrations are shown in figure 10.

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TABLE I (continued)

PROGRAMME 2. ATTACK ON LIBYAN OMAR							
SERIAL	UNIT	TIME		TARGET	AMMUNITION	RATE	REMARKS
		FROM	TO				
8	12 FA Bn	Y	Y + 10	Area D	HE	Normal	
9	116 FA Bn	Y	Y + 10	Area E	HE	Normal	
10	11 FA Bn	Y	Y + 10	Area F	HE	Normal	
11	52 FA Bn	Y	Y + 10	Area G	HE	Normal	
12	12 FA Bn	Y + 10	Y + 15	Area H	HE	Normal	
13	1 FA Regt	Y + 10	Y + 15	Area J	HE	Normal	

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COUNTER-BATTERY TASK TABLE

SERIAL	TIME		UNITS TO ENGAGE						RATE OF FIRE	
	FROM	TO	234th Bn 233d Bn 4.5 Btry A Btry	9760B	9861A	9760B	9861A	9760B	9861A	25-pdrs 4.5-in 6-in How
1	Z-30	Z-28	0464A*	9760B	9861A	9760B	9861A	9760B	9861A	2 rds per gun per min
2	Z-26	Z-24	0464A	9760B	9961A	9961A	9961A	9360A	9360A	"
3	Z-21	Z-20	0464A	9760B	9861A	9760B	9760B	9460A	9460A	"
4	Z-14**	Z-10	9360A	9360A	9360A					"
5	Z-6	Z-4	9460A	9460A	9460A					"
6	Z-2	Z	9460A	9360A	9360A					"
7	Z+4	Z+8	9360A	9360A	9360A					"
8	Z+12	Z+14	9460A	9460A	9460A					"
9	Z+18	Z+20	9360A	9360A	9360A					"
10	Z+25	Z+30	9460A	9360A	9360A					"
11	Z+34	Z+36	9460A	9460A	9460A					"
12	Z+58	Z+40	9360A	9460A	9460A					"
13	Z+42	Z+45	9360A	9360A	9360A					"

*Four numbers followed by letter indicates the location of the enemy battery which is to be the target; for example, "A," first target located in area, "B," second, etc.

**From Z-14 on, one Btry 4.5 and one Btry 233 Med Bn may be taken off tasks to engage by direct observation any active enemy artillery not included in this schedule.

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c. November 22-23 (fig. 9)

During the morning of November 22 the Sussex and Punjab Battalions, both in trucks, and their supporting units moved to the assembly areas about three miles north of Omar Nuovo, and in spite of the rather vague "subject to satisfactory reports of routes clear of mines" and possible confusion resulting from artillery counterbattery fires and a half-hour bombing by the R.A.F., the attack was started on schedule. The infantry detrucked a short* distance from the wire and began the assault on foot.

In general, the attack proceeded according to plan, and the first objective was taken by 3:30 p.m. on that day. Thirty-two tanks**, accompanied by some Bren-gun carriers, advanced abreast in two groups, each of two waves. Each wave consisted of eight tanks, with infantry following immediately behind the rear wave. About 150 yards from the Axis positions the tanks increased their speed, and the infantry, which had been close behind the tanks, could not keep up. The result was a gap of 75 to 100 yards between the rear of the tanks and the assault wave of the infantry.

As the tanks advanced, they reached a mine field which had apparently been laid during the preceding night, after all British reconnaissance had been completed. Eleven tanks were put out of action by the mines and the remainder milled around for some minutes before a Bren-gun carrier discovered a small gap in the field. All tanks still in action then went through the gap in column and continued the attack. The existence of this mine field, which took such a toll of the tanks, appears to have been a complete surprise to the attacking troops.

The mine field proved to be incomplete, but was effective enough to cause heavy tank casualties, which in turn resulted in a large

*There are conflicting accounts as to exactly where the infantry detrucked. A captain of the Royal Sussex Battalion said that his company detrucked about 300 yards from the wire, but the American Observer placed the detrucking distance at about a mile from the wire. The infantry, however, undoubtedly detrucked in full view of the enemy.

**Two companies of tanks were used, the other company being held in reserve.

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infantry toll. The delay at the mine field also set the tanks up as excellent targets for a battery of 88-mm. German antiaircraft-antitank guns and some Italian 75-mm. guns, which knocked out 12 more tanks with their extremely accurate fire.

The Axis forces stayed well concealed in their slit trenches until the tanks passed, but came up in time to catch the infantry in their fire at a range of less than 50 yards. The result was heavy casualties in the Royal Sussex Battalion.

After the British penetrated the position, the right company of tanks and two infantry companies swerved to the west and took area A (fig. 10), and the left tank company followed by the other two infantry companies continued its advance and took areas B and C. This attack was conducted almost entirely with rifles, bayonets, and grenades, for the supporting tank force had been badly depleted and there was no heavy machine-gun support. R.A.F. bombing and the artillery concentration preceding the attack had both proved ineffective, inflicting few casualties and little damage on the Axis defenders.

Having taken its objective, the Royal Sussex began consolidating its positions, and the remaining operative tanks and gun carriers moved northwest to take part in Phase II of the attack, in which they were to support the Punjabs in assaulting the Libyan Omar position (DEFGHJ). En route the surviving tanks ran into more mines and suffered further losses.

The Punjab Battalion, which had constituted the regimental reserve during the first part of the attack, moved into position preceded by its attached company of infantry tanks and the surviving tanks from Phase I, a total of 25 tanks.* After a 10-minute artillery concentration** on the west sector of the position, the Punjabs moved to attack at 4 p.m. only to be halted by another mine field which had been constructed within the position, running north-south

*There were 16 tanks in the company which had been held in reserve attached to the Punjabs, and 9 tanks remaining from Phase I.

**See Artillery Programme 2, Table I, 4th Indian Division Artillery orders.

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through Libyan Omar. Three tanks were lost in this mine field, and 19 were knocked out by artillery fire. This ended the British attack for that day.

The following day, November 23, the Punjabs and the three remaining infantry tanks took the Libyan Omar position after assaulting it twice. By 4 p.m., November 23, all of the Omar group was in British hands with the exception of isolated positions along the boundary fence north of Sidi Omar and a few artillery positions near Libyan Omar.

d. Later Operations

Shelling by both sides occurred all day November 24 on a small scale, with the British cleaning up small pockets of resistance and the Germans firing counterbattery fires from the few positions remaining.

On the evening of November 24 at about 5 p.m., just before dark, a violent armored attack was launched from the west on the 4th Indian Division Headquarters at Bir Sheferzen, cutting the lines of communication to the south. Leaving many vehicles in flames and abandoning much of their equipment, the division headquarters was moved to the north and entered the mine field inclosures at Omar Nuovo and Sidi Omar.

About 9 a.m., November 25, a heavy artillery concentration came down on the inclosure at Sidi Omar from Axis batteries in the desert northwest of Libyan Omar, setting fire to many vehicles and wounding some men. This concentration, which was delivered by 105-mm. howitzers using ricochet fire, was very effective on vehicles in the area, but because of the excellence of the fortifications there were only a few casualties among the officers and men. A short while after 11 a.m. a number of Axis tanks made an attack from the southeast on the 1st Field Artillery position just inside the mine field in southeastern Omar Nuovo. The battalion commander ordered fire to be held until his command was given, and when the Axis tanks were about 800 yards from the battalion, fire was opened with direct laying. Ten Axis tanks were knocked out, two with their turrets blown off, and the remainder set afire.

Simultaneously with this attack another was launched on Libyan

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Omar from the northwest by both tanks and infantry. By 4 p.m. the British had been driven out of Libyan Omar but still occupied both Sidi Omar and Omar Nuovo. On November 30, however, the British launched another infantry and tank attack and succeeded in retaking Libyan Omar.

4. LOSSES

Losses for the first two days of the battle were as follows:

British

November 22:	November 23:
Dead--3 officers and 58 men;	Dead--4 officers and 30 men;
Wounded--200 officers and men.	Wounded--3 officers and 125 men.

Total November 22 and 23:

Dead--91;
Wounded--328.

Axis

November 22 and 23:
Dead--approximately 25;
Wounded--150;
Prisoners--3600.

The following forces and equipment were captured by the British on November 22 and 23:

Omar Nuovo

3d Battalion, 16th Infantry Regiment;
Headquarters Company and 2 companies of the 155th Machine-Gun Battalion;
2 batteries of 75-mm. guns from the 12th Field Artillery Regiment;
503d Battery of 20-mm. Breda guns;
1 battery of the 18th Antiaircraft Regiment;
Some Italian 47-mm. antitank guns.

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Figure 11. Path through a Desert Mine Field.
Stakes at left are standard mine field markings. Behind the stakes can be seen a mass of concertina wire.

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Libyan and Sidi Omar

1 battalion of 16th Infantry Regiment;
4 German multipurpose 88-mm. guns;
3 companies of the 155th Machine-Gun Battalion;
2 batteries of 105-mm. howitzers of 12th Field Artillery Regiment;
267th Battery of 65-mm. guns;
56th Engineer Battalion.

5. COMMENTS AND LESSONS

a. British

(1) General

The British success in the Battle of the Omars is impressive when the relative strengths of the two forces are considered. Two thousand British infantry men, supported by tanks and artillery, attacked and captured positions which were fortified by extensive mine fields and entrenchments, supported by strong antitank artillery, and garrisoned by an enemy double the size of the attacking force*.

Antitank protection for the 4th Indian Division Headquarters was inadequate and nearly resulted in disaster on the evening of November 24. The only protection was that provided by an inadequate antitank force and Bren-gun carriers, which were located some distance from headquarters and other installations. Bren-gun carriers, of course, are too lightly armored to withstand an armored attack.

Action on the desert usually stops at dark, and if a unit is protected by a mine field, it considers itself safe until daybreak, for few troops or vehicles dare to cross a mined area during darkness.

During the assault the infantry itself had no mortars or heavy machine guns, only rifles, submachine guns, and bayonets.

*"These British soldiers are some of the bravest men I have ever seen, for they passed through gaps in the mine fields after tanks had been knocked out and took the positions with the bayonet--this in the face of severe machine-gun and rifle fire." American Observer.

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(2) Detailed

(a) Reconnaissance

This operation demonstrates the importance of thorough and continuous reconnaissance, and shows that reconnaissance must be so conducted as not to reveal the point of attack.

In this operation it appears that the Axis troops were able to deduce the point of attack from the actions of the British patrols, and to take preventive action by mining this area. The incomplete nature of the mine fields in which the British tanks were caught indicates that they were laid down in a great hurry, probably during the night before the attack.

(b) Orders

The British infantry warning order for the assault on the Omars, with its approximate counterpart in an American warning order, has been included in this study and forms a basis for comparison of the methods of the two armies. These orders are excellent examples of warning orders, with every possible detail of information included. It should be noted, however, that there would not have been time for the preparation of such detailed orders in a rapidly moving situation. In this operation the fact that the attacking force had troops operating on three sides of the objective, and that the supporting artillery was so located that it also was firing into the position from three sides, required the coordination of many details.

Confusion in time of attack, which was to be indicated by artillery concentrations, might well have resulted from numerous batteries firing counterbattery missions prior to the time of attack. Coordination of the various British units during the attack was good, largely because subordinate units had ample time to work out their own plans after receiving the warning order.

(c) Support

1. Tanks

The Royal Sussex battalions suffered heavy losses in the attack on the Omar Nuovo position because of the interval between their assault wave and the attacking tanks. Had the tanks

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strictly followed orders, reaching the Axis positions 10 minutes before the infantry, losses would have been even greater.

2. Artillery

The artillery preparation on November 22 was delivered without prior registration, using map data corrected. The map scale of 1/50,000 indicated that the results might be expected to be poor. The omission of registration was due to the fact that the attack was to be a surprise*. It seems, however, that one battery at least might have registered and then transmitted corrected data to other units. Most of the fire delivered appeared to be ineffective, and later inspection of the terrain and fortifications in the Omars verified this. It seemed that more artillery might have been sited in the position of the 12th Field Artillery Battalion (see fig. 5), which was firing along the axis of the fortifications rather than perpendicular to it.

Survey work was quickly accomplished by both the divisional artillery and battalion survey groups. Locations were reported to have a maximum error of 1 yard and a direction error of 1 minute.

No fire direction methods were used by any unit during the battle, although the situation was apparently ideal for their use. In spite of excellent visibility, no attempt was made by any battalion or battery commander to correct by observation any data once the concentrations had started. All fire was delivered by battalion concentrations except in the case of the 4.5-inch battery, which fired counterbattery missions. Axis batteries attempted no counterbattery fire during the preliminary artillery concentration, apparently holding their fire for the tank-infantry assault.

Smoke concentrations delivered during the attack were satisfactory because of the use of two centers of impact and double the normal rate of fire. The wind on the desert is extremely variable, and different sizes of whirlwinds which veer and change

*The element of surprise was conspicuously lacking, however, for terrain and atmospheric conditions were such that British preparations for the attack, the movement of the vehicles, and the detrucking of troops for the assault were clearly visible to the Axis forces.

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direction constantly make it difficult to estimate the wind in any such operation as the laying of smoke.

Lack of cover on the flank of the Omar position or within close range to the north forced the siting of the W/X Field Artillery Battalion 6000 yards to the north. This rendered its support of the tank attack ineffective. The result was that numerous Axis antitank guns, ranging from the 47-mm. to the 88-mm., knocked out 31 of the 48 British tanks which took part in the battle*.

Because of the dust, the artillery observers who were in the second wave of tanks could not see. Observers were not in the first wave of tanks because of the risk of being knocked out, but it is believed that they could have been located in positions from which fire could have been conducted more effectively, as for example, on the flank. The only targets fired upon were the German 88-mm. multipurpose guns, which were finally silenced after they had disabled 15 tanks.

The battalion of artillery directed to support the infantry during the advance fired only on fortifications to the flank of the infantry, for the advancing tanks had raised large clouds of dust, the terrain was flat, and arrangements for observation were so inadequate that it was not safe to fire over the heads of friendly infantry.

On November 23 four enemy 105-mm. batteries as well as other enemy groups were still active. These were successively neutralized by the 6-inch counterbattery battalion.

Field artillery flash spotters located many isolated 105-mm., 75/46** and antitank guns, and these were partly silenced on November 23 and 24. These spotters were available to adjust counterbattery fires, but were not so used. It was noted that the 4.5-inch battery

*"The employment of tanks in no way lessens the need for strong fire support. Combat aviation and the supporting fires of artillery. . . and other supporting weapons, are carefully coordinated with the advance of the leading echelon. The mission of fires supporting the tank action is to neutralize hostile antitank guns . . ." Par. 1149, WD FM 100-5, FSR.

**The Italian 75/46 is a 75-mm. gun with a tube 46 times the diameter of the bore.

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which was assisting in the counterbattery fires did little effective firing*. When this was checked several days later, it was found that the use of a faulty declination constant had caused an error of 2 1/2 degrees in the aiming circle.

The following table gives ammunition expenditures for November 22 and 23:

Fifty-two 25-pounders used 6,000 rounds of HE shell,
700 rounds of smoke, and 226 rounds of superquick ammunition;
Eight 6-in. howitzers used 510 rounds of HE shell;
Four 4.5-in. guns used 500 rounds of HE shell.

3. Air

The R.A.F. had air superiority, yet no orders or details regarding its part in the battle were issued other than the indefinite statement "RAF will bomb OMAR NUOVO, LIBYAN OMAR and ADHIDIBA between 1130 and 1299 hrs." The air arm apparently had no role during the actual attack, though it could have been well employed in bombing AT positions. With cooperating air force it is necessary that definite targets and definite missions be assigned.

Prior to the attack, 27 loads of bombs were dropped on the Axis positions from an altitude of 5,000 feet. The total weight of the bombs dropped was $250 \times 3 \times 27 = 20,250$ pounds. When the defensive positions were examined, however, little effect was noticeable. This was probably due to the accuracy of Axis antiaircraft fire in the Omars, which knocked down five Hurricanes and one Maryland bomber on November 22 and 23.

b. Axis

(1) Artillery

German 88-mm. multipurpose guns (see Appendix A) were used chiefly as antitank weapons, and were extremely effective. These guns were well emplaced in sunken positions with only enough of the gun showing to permit it to traverse.

*The ineffectiveness of the fire, particularly the inaccuracy of the 4.5-inch battery, was noted by the American artillery observer, who was observing the effect from the top of a caisson.

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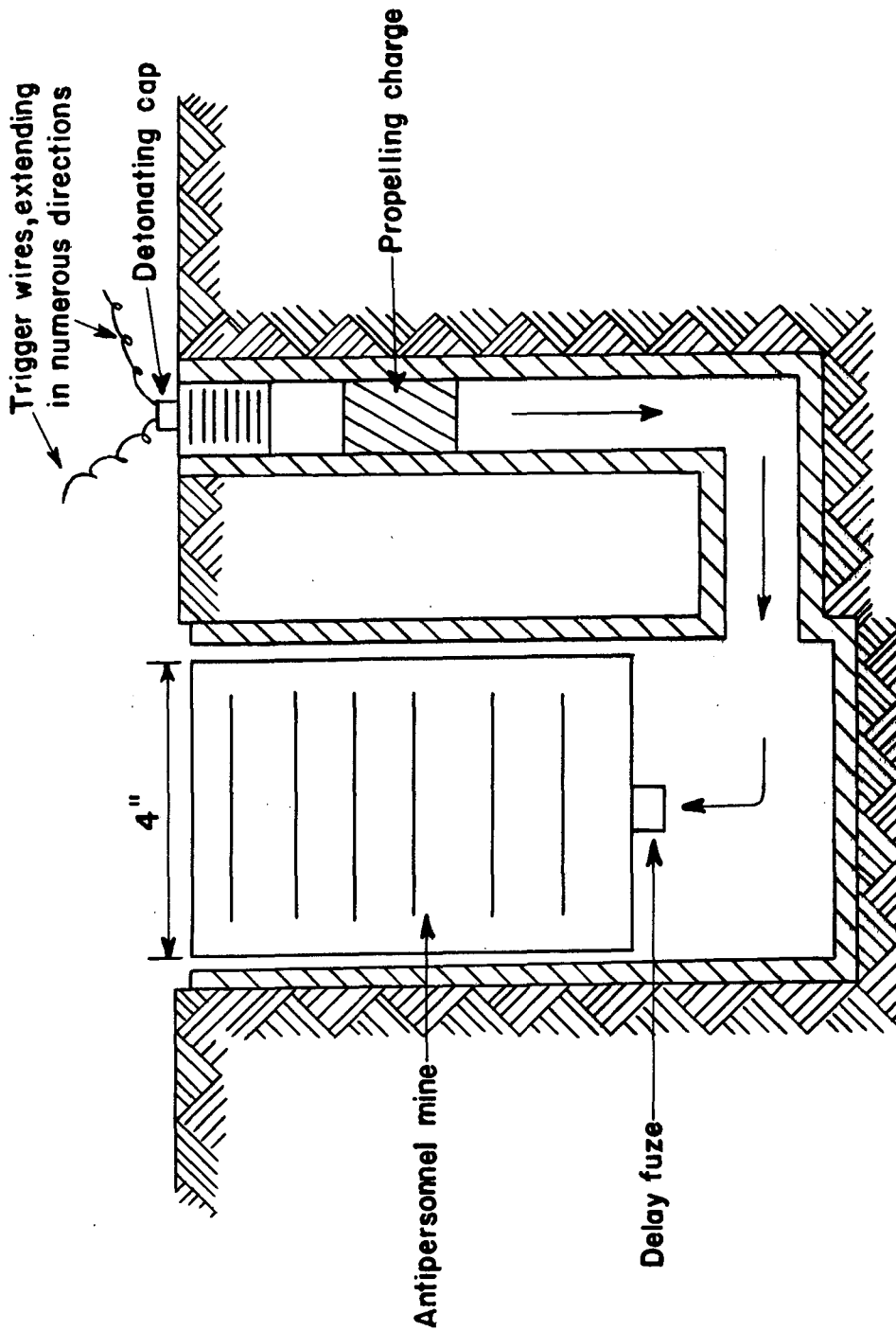


Figure 12. German Bounding Mine, or "Silent Soldier."

This antipersonnel mine was used by the Germans in the Omars. It has trigger wires which, if stepped on, detonate the propelling charge, and a delay fuze explodes the mine when it is a few feet above the ground. Shrapnel (350 steel balls) is projected horizontally, effective within a radius of 40 feet and fairly effective within a radius of 100 feet.

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The 75-mm. guns of the Italian 12th Artillery Regiment were the 75/46 gun equipped with armor-piercing shell for antitank use.

The 65-mm. Italian guns were ordinary close-support weapons used in an antitank role, and had both armor-piercing and H.E. shell.

(2) Defensive Positions

(a) Trench Systems

Defensive positions at Sidi Omar, Libyan Omar, and Omar Nuovo were well constructed and excellently concealed. All trench systems had been dug, or rather blasted, into the rocky ground and the debris removed, so that little or nothing showed above the ground. Trenches, which were 4 to 5 feet deep, were zigzagged at short intervals, and fields of fire were perfect for several hundred yards.

Axis troops remained safe in their trenches while the British tanks crossed over them in their assault, then came up and delivered fire on the attacking infantry at close range. This technique is stressed in the German training doctrine.

(b) Mine Fields

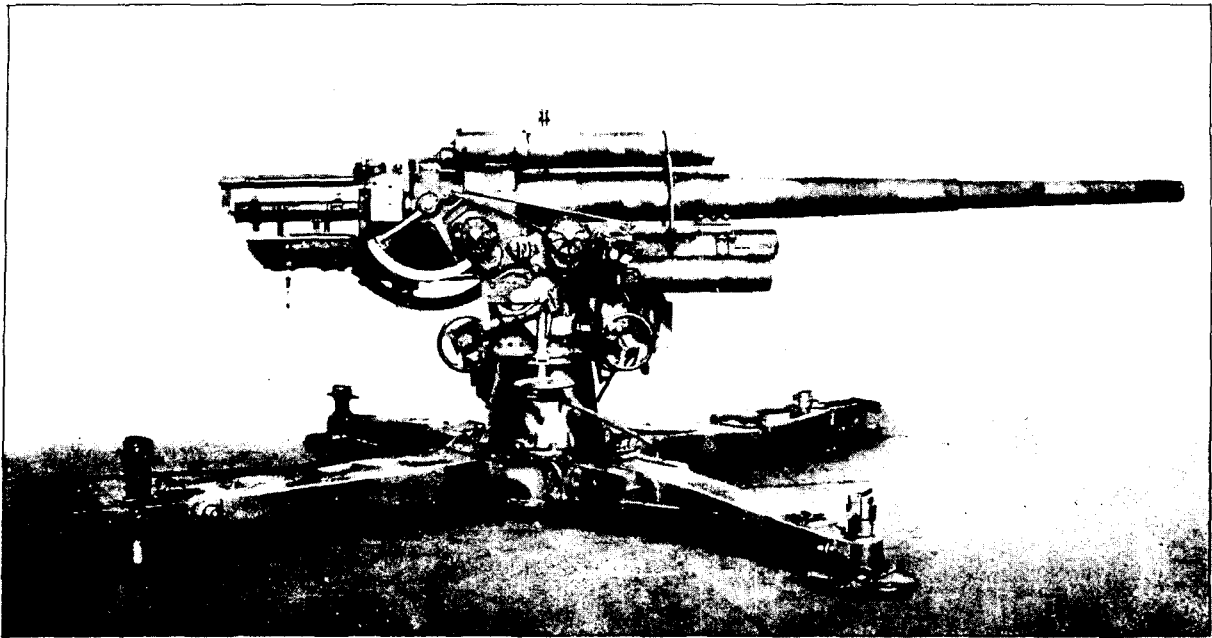
The mine fields were in the form of a belt, about 100 yards wide, in which the mines were planted in rows of about 6 to 8 feet apart. The mine positions were sufficiently concealed by the shifting sand. Approximately 100,000 mines were used. Axis mine fields were marked for identification by barbed wire fences on the outside. The Axis used German "Teller" antitank mines and bounding anti-personnel mines (see fig. 12).

(3) Morale

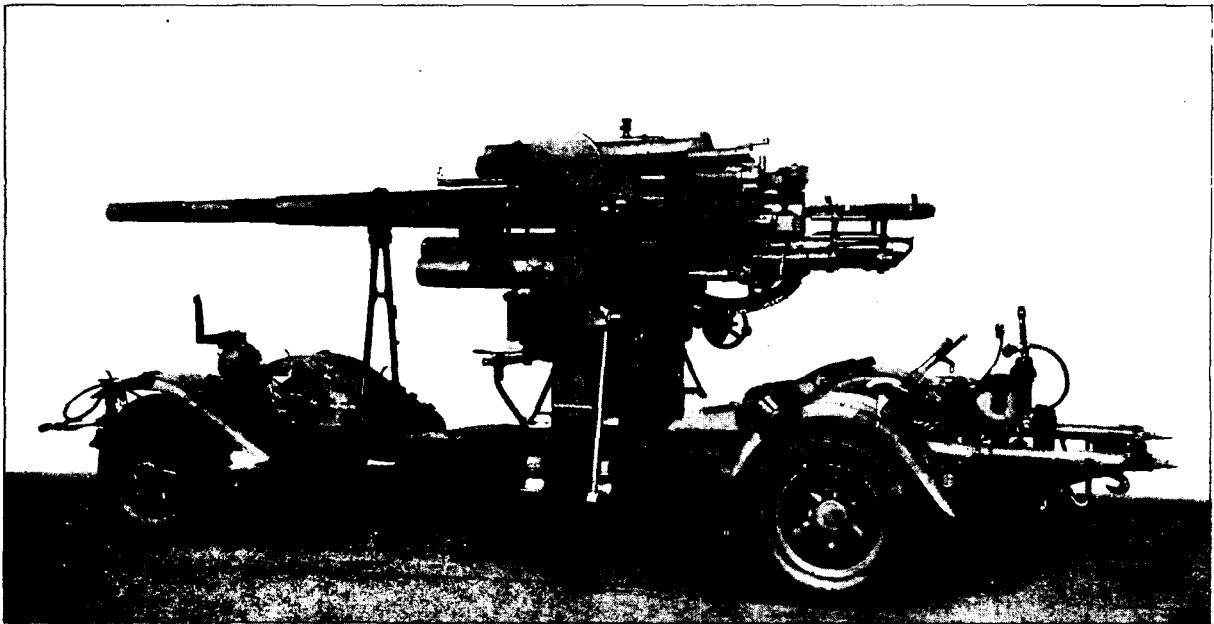
All Italians captured on November 22 and 23 in the Omars belonged to the Savona Division and were reported to be tougher on the whole and better disciplined than the Italians of the Trento Division captured in December 1940 and June 1941. The prisoners were a well-clothed, well-disciplined group, who had put up a good fight and knew it. The 6 German and 52 Italian officers, as well as the 37 German technicians, were very bitter about their capture and would not speak.

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a. In Firing Position, Right Side View.



b. On Special Trailer, Left Side View.

Figure 13. Two Views of the German 88-mm. Multipurpose Gun.

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APPENDIX A

THE GERMAN 88-MM. MULTIPURPOSE GUN

The German 88-mm. multipurpose gun, which was used so effectively in the Battle of the Omars, was designed primarily as an anti-aircraft weapon, but like all German antiaircraft guns, it may also be employed against ground targets. The high muzzle velocity and resultant striking power of this weapon make it particularly effective against armored targets and fortified gun positions, even at considerable ranges. Using H.E. and armor-piercing ammunition, it is employed with deadly effect against medium and heavy tanks. Mobility, which is a prerequisite of an antitank gun, is secured either by a self-propelled carriage or by a special trailer drawn by a tracked prime mover (see cover design and fig. 13).

The barrel is jacketed, with an easily detachable breech ring, a supported, interchangeable A tube (the rifled part of the tube), and a removable guide ring. It is 16 feet long and has 32 rifling grooves. The breech is semiautomatic and self-cocking, opening when the barrel runs out after the shot has been fired, ejecting the cartridge case, and at the same time compressing the striker spring.

The carriage consists of a mounting built into the platform of the chassis, the upper carriage with a protective armor shield, a buffer fitted into the barrel cradle, a hydropneumatic recuperator fitted above the barrel, two balancing springs to distribute the excess weight of the barrel and cradle, and the traverse and elevator gear.

The standard German antiaircraft sight, modified to give range readings in meters rather than elevation angles, is normally used, but the armor shield also has a loophole for the wide-angle (emergency) sight. With the telescopic sight, the line of sight is parallel to the axis of the barrel when both deflection and range drums are set at zero. Since, however, the sight is 28 inches to the right of and 8 inches below the barrel, the aiming point must be taken low and to the right if direct hits are to be obtained.

The elevation field is determined by fixing an attachment on

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the sextant from minus 3 to plus 15 degrees. The traverse field is limited by the upper carriage striking against the armor of the driver's seat. It is 151 degrees to the right and 181 degrees to the left, or a total traverse of 332 degrees.

The 88-mm. unit, which is under divisional control for tactical purposes, goes into action from the ammunition line. Here the ammunitions trucks are left, and the battery commander, chief of section, and driver reconnoiter the assembly point, gun position, and observation post. The gun is driven to the assembly point, usually within 225 yards of the gun position, in march order, and the crew prepares it for action when that command is given at the assembly point.

Rules on the selection of a firing position are as follows: the angle of impact should be not greater than 60 degrees; the range should generally not exceed 1,100 yards; the gun level must slope downward with the wheels nearer the target lower (the gun level varies from minus 3 to plus 15 degrees from the horizontal of the muzzle); the position should be concealed and as near to the target as possible to insure maximum accuracy and surprise in opening fire; the field of fire must be prepared, if necessary, by sawing through trees and branches; the lanes of approach and withdrawal must be as firm, level, and wide as possible.

The prime mover can knock down trees up to 3 inches in diameter, and the self-propelled carriage can level 5-inch trees. The minimum widths, which must be considered in choosing lanes of approach and withdrawal, are: with barrel at right angles, 20 feet; with side supports in rest position, 16 feet; and with side supports in march position, 10 feet. If narrow points have to be negotiated on the way to the firing position, the side supports are not put down until these points are passed, nor is the barrel swung free until there is sufficient room. At all times, however, the barrel, with its armored shield, is directed toward the enemy.

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Following is a list of characteristics of the German 88-mm. multipurpose gun:

Muzzle velocity	2,756 feet per second
Maximum ordinate	36,000 feet
Maximum range	16,623 yards
Elevation	minus 3 to plus 85 degrees
Traverse	360 degrees
Weight of piece in firing position including outriggers	11,354 pounds
Weight of tube	3,175 pounds
Caliber	88-mm.
Length in calibers	56
Height of fire over outriggers	52 inches
Height of fire over earth	63 inches
Longest recoil	41 inches
Shortest recoil	28 inches
Weight of trailer	16,426 pounds
Tread	70 inches
Diameter of wheels	36 inches
Weight of projectile	32 pounds
Weight of propelling charge	20 pounds
Weight of bursting charge	1.5 pounds

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APPENDIX B

AXIS EMPLACEMENTS AND FORTIFICATIONS IN THE OMARS

The series of photographs on the following pages illustrates artificial hull-down gun positions and carefully-prepared fortifications that constituted the Axis defensive works in the Omars. The artillery emplacements are discussed in paragraph 5b(1) of this bulletin, and the trench systems in paragraph 5b(2).

In the pictures of artillery it is interesting to note the depth of the emplacements, the protection provided for gun crews, the fields of fire to the front and flanks of the guns, the discarded shell containers, the method used for storage of ammunition, and the destroyed British tanks on the desert.

The pictures of the Axis fortifications show the hard, rocky nature of the desert soil, the irregular trench pattern, the manner in which the tops of trenches have been made flush with the ground, and the debris from the battle.

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This gun appears to be the Italian 75-mm. Ansaldo rifle in anti-aircraft position. In the distance can be seen several British tanks which were destroyed in the assault on the Omar position.

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These two pictures illustrate a German 88-mm. multipurpose gun that has been knocked out by British counterbattery fire. Notice that the hydropneumatic recuperator has been blown from its position above the tube. Also note ammunition containers in the foreground.

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This photograph shows a type of armor shield used in some Axis gun emplacements, and also the rocky soil that is characteristic of the Libyan Plateau. The gun is not identified.

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These British soldiers are demonstrating the method of firing the Italian 81-mm. (3.2-inch) mortar. This mortar can be elevated from 40 to 90 degrees. It has a traverse of 8-1/2 degrees and an effective rate of fire of 30 rounds per minute.

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The type of emplacement illustrated on this page allows the gun sufficient traverse to cover a wide field of fire to the front and flanks of the position. The gun shown here is the Italian Breda antiaircraft--antitank. It has the following characteristics: caliber, 20 mm.; length in calibers, 65; muzzle velocity, 2,759 feet per second; maximum effective range, 6000 yards; antiaircraft ceiling, 8,200 feet; weight of projectile, armor-piercing, .308 pounds, high explosive, .297 pounds; effective rate of fire, 129 rounds per minute; elevation, 10 to 80 degrees; traverse, 360 degrees.

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This Indian soldier is inspecting captured Axis small arms and web equipment in an Omar fortification. Notice that the top of this position is flush with the surface of the ground.

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Axis communication trenches were narrow and shallow, but carefully zig-zagged so as not to present an easy target for the British artillery. These British officers are inspecting equipment captured from the enemy.

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This squad from the Royal Sussex Battalion is passing through a communications trench in the Omars.

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